

United States Department of Agriculture

Agriculture

September 2016



Service

# **Scenic Resources Report**

## **Lover's Canyon Project**

Salmon/Scott Ranger District Siskiyou County, California

For Information Contact: Karl Dietzler Klamath National Forest Headquarters 1711 South Main Street, Yreka, CA. 96097 (530) 841-4487

#### **Non-Discrimination Policy**

The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers, employees, and applicants for employment on the bases of race, color, national origin, age, disability, sex, gender identity, religion, reprisal, and where applicable, political beliefs, marital status, familial or parental status, sexual orientation, or all or part of an individual's income is derived from any public assistance program, or protected genetic information in employment or in any program or activity conducted or funded by the Department. (Not all prohibited bases will apply to all programs and/or employment activities.)

#### To File an Employment Complaint

If you wish to file an employment complaint, you must contact your agency's EEO Counselor (PDF) within 45 days of the date of the alleged discriminatory act, event, or in the case of a personnel action. Additional information can be found online at www.ascr.usda.gov/complaint\_filing\_file.html.

#### To File a Program Complaint

If you wish to file a Civil Rights program complaint of discrimination, complete the <u>USDA Program Discrimination Complaint Form</u> (PDF), found online at www.ascr.usda.gov/ complaint\_filing\_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.

#### Persons with Disabilities

Individuals who are deaf, hard of hearing or have speech disabilities and you wish to file either an EEO or program complaint please contact USDA through the Federal Relay Service at (800) 877-8339 or (800) 845-6136 (in Spanish).

Persons with disabilities who wish to file a program complaint, please see information above on how to contact us by mail directly or by email. If you require alternative means of communication for program information (e.g., Braille, large print, audiotape, etc.) please contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

# Table of Contents

Introduction
Methodology
Assumptions
Measures4
Spatial and Temporal Bounding of Analysis Area
Affected Environment9
Environmental Consequences 11
Alternative 1
Direct Effects and Indirect Effects
Cumulative Effects11
Effects Common to Alternatives 2 and 3
Direct and Indirect Effects
Cumulative Effects
Summary of Effects
Compliance with law, regulation, policy, and the Forest Plan
Literature Cited
Appendix A – Project Area Photographs
Appendix B – Maps
List of Tables
Table S-1: Forest Plan Viewpoints, Recreation with Extended Viewing Times, Roads, Trails, Sensitivity  Level, and Distance Zone
Table S-2: Scenery Project Design Features
List of Figures
Figure 1: October, 2015: View towards Boulder Peak (Marble Mountains Wilderness)

## **Scenic Resources Report**

#### Introduction

The purpose of this report is to analyze the effects of the Lover's Canyon Project alternatives on scenic resource values. The focus as it relates to these values is primarily through vegetation management in the project area, as viewed through the broad lenses of the landscape architecture and forest management professions. The following summarized rules further guide the analysis:

- Forest Service Manual Chapter 2380 (Landscape Management) requires the assessment and documentation of project impacts on scenic resource values, and to propose mitigation measures (project design features) and scenic integrity objectives.
- USDA Handbooks 462 and 559 define the nationally-established principles and methods of the Visual Resource Management System (VRM), and define Visual Quality Objectives (VQOs) used in the Klamath National Forest Land and Resource Management Plan of 1995 (Forest Plan).
- The Forest Plan VQOs cover every acre of the Klamath National Forest. The Standards
  and Guides applicable to the project area VQOs provide the baseline principles and rules
  to measure acceptable amounts of visible change to the ecologically-established
  landscape character.

Public scoping comments brought forward a concern over the effects of vegetation management on scenic values on National Forest lands adjacent to the private inholding in Township 15N, Range 3W, Sections 26, and 27. The effects of the project will be analyzed for the proposed treatments surrounding this area, along with the proposed alternatives for the entire project.

The Scott River Wild and Scenic River occupies a 4.5 mile linear stretch of the Project area, and potential effects of the project will be address in this report.

## Methodology

Project analysis includes locating and field checking all high and moderately-sensitive roads and trails within the Project area, as well as all Forest Plan listed sensitive viewpoints and recreation areas with extended viewing times (See Table S-1). Additional analysis includes walking selected proposed timber units to better understand vegetation types, topography, and overall form, line, color, and texture, as well as evaluating project appearance before and after proposed treatments. Fieldwork is also supplemented with ArcGIS and Google Earth analysis, and professional judgement. Additionally, conducting a literature review of appropriate forest aesthetics and forest science articles supplements Forest Plan Standards and Guidelines with best available science and research. A brief summary background of the literature review follows.

According to Ryan (2005) and Islas (2012), peer-reviewed forest aesthetics research reveal common patterns in public preferences regarding perceptions of a scenic forest. These consistencies range across North American and European forest.

Although the research focuses on fuels management, these patterns also apply to timber management. The public values the following visual characteristics:

- Large mature trees.
- Forests with more open structure, with views into the understory are generally considered more scenic than those with extremely dense understory.
- The amount of thinning varies by topography and forest type; however, partial clearing of up to 50% in a dispersed pattern may be visually acceptable in moderately sensitive areas, especially with large tree retention.
- Downed wood from timber harvesting and tree thinning has a negative impact on scenic beauty. Removing dead wood or chipping onsite can greatly increase scenic rating on thinning projects.
- Low-intensity prescribed burning generally improves scenic beauty long-term, but may have short-term negative visual impacts, such as tree bole (trunk) scorching and burned mosaic patterns along the forest floor and vegetation.

Although the public has common expectations of what they consider scenic, the patterns listed above are not appropriate for every forest type and ecosystem. Furthermore, according to Nassauer (1992) and Gobster (1999), some aspects of forest management may not be visually appealing to the public, even though positive short and long-term ecological benefits can be achieved. In order to balance the two, as well as meet all Forest Plan visual and ecological objectives, Project Design Features (PDFs) are implemented to ensure forest ecological and aesthetic resource objectives are met to a successful degree. PDFs for the Project are listed in Table (S-2).

#### **Assumptions**

The following are taken from USDA Handbook 462 and provide broad, transferrable assumptions and observations regarding the nature of public interaction with the visual environment on National Forest Lands.

• The recreation-oriented public who visit National Forest Lands have an image of what they expect to see. Images are generated by an individual's past experiences with a specific landscape, a landscape associated with a region, or landscape similar in appearance to the one being viewed. Images can represent knowledgeability, expectedness, romanticism, and emotionalism associated with features in an area. Several images may exist simultaneously, yet a geographic region tends to have an identifiable image association.

- Aesthetic preferences vary among the public, based on culture, past experiences, and many other factors.
- The public most concerned with aesthetics are those who are in an area because of, or otherwise have a major interest in scenic qualities.
- Visual impacts of management activities increase as the duration of viewing time increases beyond a quick glance.
- Visual impacts of management activity become an increased concern as the actual or potential number of viewers increase.
- All landscapes have a definable character and those with the greatest variety or diversity have the greatest potential for high scenic value.
- Landscapes with distinctive variety in form, line, color, and /or texture should be retained and perpetuated.
- Each landscape unit has its individual capacity to accept alteration without losing its inherent visual character. This may be expressed in the screening ability of vegetation and landforms, variety of vegetative cover, geologic forms, and water features, and its ability to for vegetation to recover after disturbances.
- Landscapes with little or no variety may be enhanced by alteration.
- The visual impact of management activities increases as the amount of landscape alteration increases. The visual impact of management activities generally increases as the visual elements in the management activity deviate from the same elements in the natural landscape.
- Visibility and clarity of detail is often a function of viewing distance. The visual impact of management activities usually increase as viewing distance decreases.
- Dominance and arrangement of elements will focus viewer attention and subject certain areas to increased scrutiny. Major peaks, water forms, rock outcrops, meadows, edges, framed views, axial patterns and convergent patterns are typical focus areas. Visual impact of management activities increases as the focus of viewer attention increases in these managed areas.
- Visual impact of management activities increases as the viewer's line of sight tends to become perpendicular to the slope upon which the management activity will take place.
- Landscapes are dynamic and even those areas of high aesthetic value may require some management to retain a valued character.
- Short-term or fleeting factors that affect the viewed landscape include: atmospheric and weather
  conditions such as lighting, season, speed of recreational activity, animal occupancy, and
  projected and reflected images.

## Analysis Indicators

The Forest Plan directs the interdisciplinary team (IDT) to:

- Maintain all existing VQOs as designated, and where possible and compatible with other objectives, strive for higher visual quality standards.
- Perpetuate the ecologically-established landscape character when implementing management activities, by reflecting the form, line, color, and texture of natural occurrences seen in the characteristic landscape.

• Manage those areas not visible from High or Moderate Sensitivity Viewpoints shall be managed to appear as little modified as possible consistent with management goals, and no more altered in appearance than the Maximum Modification VQO.

#### Measures

Per the Forest Plan, scenery is evaluated from sensitive viewpoints, roads, trails, as well as recreation points with extended viewing times.

In order to meet or exceed project-area VQOs, the focus of this analysis is as follows:

- Qualitatively describe the existing characteristic landscape of the project, as expressed through form, line, color, and texture, in order to create a baseline visual description, and,
- Qualitatively describe the amount of visual deviation of the project alternatives, as
  compared to the context of the ecologically-established characteristic landscape
  (ecological descriptions of the vegetation and landform as historically established and
  ecological evolution through management or non-management over time), project
  purpose and need, desired future condition and,
- Qualitatively describe the amount of visual variety, as expressed in form, line, color, and texture from the result of the proposed vegetation treatments within the treatment areas as seen from sensitive viewpoints.

Additionally, as defined by the Forest Plan, the direct and indirect project effects will be measured against the following Management Area VQOs:

**Retention:** Management activities are *not visually evident*, and may only repeat form, line, color, and texture, which are frequently found in the landscape. Changes in their qualities of size, amount, intensity, direction, pattern, etc., should not be evident.

**Partial Retention:** Management activities remain *visually subordinate* to the characteristic landscape, and may repeat form, line, color, or texture common in the landscape.

Modification: Vegetation and Landform management activities may visually dominate the original characteristic landscape; however, they must borrow from the naturally-established form, line, color, or texture at a level and scale that the visual appearance of the activity mimics those natural features occurring within the surrounding area. Additionally, structures, roads, slash, root wads, etc., must remain visually subordinate to the proposed composition.

Maximum Modification: Vegetation and Landform management activities may dominate the characteristic landscape; however, when viewed in the background zone, the visual appearance must mimic those natural features within the surrounding area or character type. When viewed in foreground or middle ground, the activity may not appear to completely borrow from the naturally-established form, line, color, or texture. Alterations may be out of scale, or contain incongruent detail when compared with surrounding natural occurrences. Additionally,

structures, roads, slash, and root wads must remain visually subordinate to the proposed composition as viewed in background.

## **Viewing Distance Zones**

Those seen areas of a landscape measured from the point of the human observer. In the Visual Management System, seen areas are further defined into three zones:

**Foreground:** The detailed landscape found within 0-1/4 and 1/2 mile from the observer.

**Middleground:** The landscape located between ½ and ½ miles to 3-5 miles from the observer.

**Background:** The distant landscape located between 3-5 miles and infinity.

Table S-1: Forest Plan Viewpoints, Recreation with Extended Viewing Times, Roads, Trails, Sensitivity Level, and Distance Zone

Table S-1: Forest Plan Viewpoints, Recreation with Extended Viewing Times, Roads, Trails, Sensitivity Level, and Distance ZoneViewpoint/Road/Trail/Trailhead/Miles	Visual Sensitivity Level	Distance Zone
Boulder Trailhead (T.H.)	Moderate	Foreground
Kelsey T.H.	Moderate	Foreground
Paradise T.H.	Moderate	Foreground
Upper Box Camp T.H.	Moderate	Foreground
Boulder Creek Trail	High	Foreground
Box Camp Trail	Moderate	Foreground
Canyon Creek Trail	High	Foreground
Kelsey National Recreation Trail*	High	Foreground, Middleground
Paradise Trail	High	Foreground
Box Camp	Moderate	Foreground, Middleground
Indian Scotty Campground	High	Foreground, Middleground
Jones Beach Day Use Site	High	Foreground, Middleground
Lover's Campground/Canyon Creek Trailhead	High	Foreground
Buker Bar (Bridge)	High	Middleground
County Road 7F01 (Scott Bar Road)/4.5 miles	High	Foreground, Middleground

Forest Road 44N45 (From junction, 7F01 to junction 43N45)/5.39 miles	High	Foreground, Middleground
Forest Road 43N45 (from junction 44N45 to Lover's Campground/T.H.)/1.82 miles	High	Foreground, Middleground
Forest Road 44N45 (from junction 43N45 to junction 44N44 at Box Camp)/3.26 miles	Moderate	Foreground, Middleground
Forest Road 44N44 (from junction 44N45 to Paradise T.H.)/2.96 miles	Moderate	Foreground, Middleground
Forest Road 44N53Y (from junction 44N45 to Boulder T.H.)/2.48 miles**	Moderate	Foreground
Forest Road 44N59Y (from junction 44N45 to Upper Box Camp T.H.)/1.07 miles**	Moderate	Foreground

# Table S-1 (Continued): Forest Plan Viewpoints, Recreation with Extended Viewing Times, Roads, Trails, Sensitivity Level, and Distance Zone

#### **Visual Sensitivity Level:**

High: High public use, corresponding with a high level of visual scenery interest.

Moderate: Moderate public use, corresponding with a moderate level of visual scenery interest.

\*The Kelsey National Recreation Trail is outside the project area boundary, but a small of the trail has clear views into portions of the project area and is included in the analysis.

\*\* Post-Forest Plan established viewpoints were not used during the development of Forest Plan VQOs, and are not required to meet Standard and Guideline 11-1, but can be considered during project planning. Post Forest Plan viewpoints within the Lover's Canyon Project area were considered as a part of this analysis, as the project has the potential to affect scenery values. Note that the Box Camp Trail is depicted in the GIS layer as starting at Box Camp (moderate sensitivity level from Box Camp to the wilderness boundary), yet the trail actually begins at the Upper Box Camp Trailhead. Road 44N59Y is included in the Post LMP GIS layer, but is not given a sensitivity level in the GIS layer. Given this discrepancy, professional judgement was used to determine that Road 44N59Y is a moderate sensitivity level from its junction to the Upper Box Camp TH.

**Table S-2: Scenery Project Design Features** 

PDF	Focus	Location
	Edges of Individual Units	
SCN-1	Where units are adjacent to denser forest, reduce the thinning percent within the transition zone toward the outside edge of the unit, in order to minimize line contrasts in foreground, middleground, and background distance zones.	Entire Project Area
	Roads, Skid Trails, and Landings	
SCN-4	Where feasible, retain available screening trees one height below roads and landings (including cable landings) in those locations easily viewable from Forest Plan-designated viewpoints and high/moderately traveled roads and trails from below.	Entire Project Area

PDF	Focus	Location
	Skyline Treatments	
SCN-5	Minimize the number of skyline corridors in visually sensitive areas.	Retention VQO Units 526-97, 110, 111, 125  Skyline Units seen from the Scott Bar Road in the Wild and Scenic River corridor, Units 526-85, 86,
		90, 113, and 524-54 and 527-88.
SCN-6	Reduce visual contrasts through the use of parallel cable sets.	Entire Project Ares
SCN-7	Reduce long-term visual contrasts through minimum cable corridor widths (10-12 feet)	Entire Project Area
	Slash Treatments	
SCN-8	Ensure slash is abated near landings by scattering, shipping, or other techniques that perpetuate a natural appearance.	Entire Project Area
SCN-9	Low-stump all designated marked trees at 6' in height or less, for a distance of 200' on all uphill slopes, and 100' on all downhill slopes. The Sale Administrator and Landscape Architect shall use professional judgement to vary the distance, more or less, to account for local variations in topography and amount of seen area post-harvest.	All Units along Forest Roads 43N45, 44N45, 44N53Y, 44N44. Units 526-3, 6, 9, 10, 10a, 11, 14, 15, 19, 19a, 20, 23, 34, 39, 40, 41, 49, 52, 59, 63, 091, 92, 96, 97, 98, 101, 109, 110, 111, 114, 144, 146, 196, 197, 198, 527-98.

### Spatial and Temporal Bounding of Analysis Area

The spatial bounding includes the entire project area up to the boundary for direct, indirect, and cumulative effects, and also includes the following areas beyond the boundary: County Road 7F-01 and portions of the following trail listed below within the Marble Mountains Wilderness having clear middleground and background views into the project area. Above treeline, a majority of the project area is obscured from wilderness trails, due to masking landforms.

- Along the Deep/Wright Lakes Trail, on the Boulder Mountain ridge just above Muse Meadow.
- Along the Deep/Wright Lakes Trail, on the Boulder Mountain ridge just above Deep Lake.
- A small portion of the Kelsey National Recreational Trail is included (see map). This
  section contains clear views of some project treatments in foreground and middleground
  distance zones, and the trail itself is designated in the Forest Plan as a high sensitivity
  visual corridor.

Scott Bar Lookout, also outside of the project area, was considered, but not included based on professional judgement. It is an area designated post-Forest Plan with the potential for recreational extended viewing times; however, the lookout is no longer staffed, and based on local knowledge, the site is not a popular destination with the public.

The temporal scale for the vegetation management and all associated activities (landings, temporary roads, skyline corridors, etc.) for this project begins with Forest Plan requirement 11-1, where the VQOs defined in the previous section are the minimum conditions to be achieved as soon as possible in all management areas, and within three years for all VQOs, except Maximum Modification, which must be met immediately. Facilities and developments, such as roads, trails, campground facilities, structures, signs, and interpretive stations are not required to meet Management Area VQOs when viewed in immediate foreground up to 300 feet.

Additionally, vegetation management and associated activities are typically much more immediate in foreground than in middleground or background views. As a result, for the entire project area, short-term scenery contrast effects are generally 3-10 years, and long-term effects are between 3-10 years and 25-45 years for all viewing zones.

The temporal scale to vegetation management surrounding the private inholding will be for the short-term, or 3-10 years due to the immediacy of the viewing area (i.e., foreground views).

#### **Affected Environment**

Current Topography, Hydrology, and Scenic Resources Description

Encompassing approximately 11,810 acres, the Lover's Canyon Project consists of rugged and steep topography with elevations ranging from 2,200 feet along the Scott River to approximately 6,700 near the southwest corner of the project boundary. Project area topography, generally north and east facing, is influenced by Boulder Mountain outside the project area to the south, and Box Camp Mountain and Cayenne Ridge (both outside the project area) to the west. It contains deep canyons, where Boulder, Deep, Isinglass, Canyon, and both North and South Forks of Kelsey Creek drain into the Scott River. Its steep nature provides for dramatic views, especially along the Scott River Wild and Scenic corridor, as well as from areas along roadsides where vegetation is thinner, or there are natural and cultural (man-made) openings. Along the river corridor, and throughout the Project area, the ridgeline forms contrasted against the sky, especially with varied textures such as rock outcrops, tend to draw the eye to these higher elevations from available viewpoints. These ridgeline views become more prominent and visible under appropriate atmospheric conditions, such as lighting, seasonal color, and/or snow.

Vegetation for the project area is generally dominated by white fir above 5,000' and mixedconifer forest below. The overall scene, from middleground/background views is one of nearly continuous and dense conifer forest, with hardwoods mixed along riparian corridors, and higher elevations broken by scree slopes and rock outcrops. Notable viewpoints are from the landing pictured in Appendix A (not a part of Forest Plan designated viewpoints), as well as some westerly and easterly views through vegetation from the Box Camp corral. Foreground roadside views in the project area tend to focus the public along line-of-sight, as dense vegetation surrounds a majority of the roadsides, broken by only occasional views into the understory, former logging landing sites, or similar visual contrast. Middleground and background views are severely limited from the Kelsey, Boulder, Upper Box Camp, and Paradise Trailheads, and foreground views from these locations reveal dense forest with limited views into the understory. Lover's Camp has limited views into the middleground from the corral with mostly foreground views into dense forest understory. Buker Bar (Bridge) has excellent middleground views along the Scott River Wild and Scenic Corridor, with background views into the high peaks country, as well as foreground views along the immediate river corridor. It is important to note activity at Buker Bar; drivers will scrutinize less detail traveling along the bridge (even at slower speeds), and walkers will scrutinize the most detail.

#### Culture and Disturbance

A network of Siskiyou County and Forest Service roads traverses the project area, facilitating easy access to one day-use area, three camps and five trailheads. A private inholding along the Scott River Wild and Scenic Corridor contains a clutch of residences immediately adjacent to fuel break and thinning unit 524-54.

Overall, the project area landscape (landforms, waterways, vegetation patterns, colors, and textures) form a sense of place (characteristic landscape) setting for its year-round residents and seasonal recreating public. Extended scenery viewing times exists at all trailheads, campgrounds, and day use area, as well as along access roads to those points. Additionally, the opportunity for extended viewing times of scenery exists in foreground, middleground, and background along all hiking trails considered as part of the project area.

Since the tenure of Forest Service stewardship beginning in 1905, the project area has been logged and replanted for at least the past sixty years, with road construction replacing trails into the higher elevations to facilitate hauling.

Before Forest Service stewardship, human-caused and natural fire was the main disturbance mechanism that dominated the appearance of vegetation in the Klamath Mountains (Whittaker, 1960). Overall, the project area was affected by frequent fires of low to mixed severity (Skinner et al. 2006, Taylor and Skinner, 1998), and vegetation evolved to complex mosaics of age, size, and spatial structure (Wills, 1991). Early 20<sup>th</sup> century accounts of pine and mixed conifer forests noted similar spatial structure patterns of wide tree spacing, denser tree clumps or groupings, small dense patches of seedlings and saplings, non-forested openings, shrub fields and meadows (Larson and Churchill, 2012). Fire suppression efforts began under Forest Service stewardship, and gradually became more effective, especially after 1940, when fire suppression technology became more effective and increasing roads facilitated quicker access to more forest areas (Wills, 1991).

For over 100 years, cumulative disturbance patterns of fire suppression, mining, and logging/replanting has altered the project area vegetation from the irregular, less-dense, and heterogeneous patterns established by historic low-mixed severity fire regimes. The current dense and homogeneous condition overall trends away both in spatial form and ecological function from the Forest Plan standard of perpetuating ecologically-established scenery.

#### Wild and Scenic Rivers

The Project area occupies approximately 4.5 linear miles of the Scott Wild and Scenic River. Forest Plan-designated viewpoints along the river are from Jones Bar Day Use Area, Indian Scotty Campground, and Buker Bar Bridge. Non-designated viewpoints are located along the Project area segment along the well-traveled Scott Bar Road/County 7F-01. Views from these locations range from foreground to middleground (refer to the WSR maps in Appendix B). The river was formally designated in 1981 with a recreational classification applicable to river segments that are:

- Free-flowing
- May be readily accessible by road or railroad
- May have some development along the shorelines and,

• May have undergone some impoundment or diversion in the past.

The Wild and Scenic designation primarily focuses on its free-flowing condition and, as designated, its outstandingly remarkable fisheries value. Other primary values protected by the Act and the Forest Plan are water quality, recreation, scenery, heritage, and wildlife.

Existing Project area influences on Wild and Scenic River values vary by resource; refer to specific program area reports for greater detail.

## **Environmental Consequences**

#### Alternative 1

#### **Direct Effects and Indirect Effects**

This alternative would not produce any short or long-term visual contrasts (i.e., typical effects of management from thinning, creation of fuel breaks, and underburning), or directly change the Project area's existing disturbances as viewed from all moderate and high sensitive viewpoints/road and trail corridors, recreational sites, as well as from all other areas.

Additionally, this alternative would not produce any short or long-term visual contrasts for those projects proposed surrounding the private inholding in Township 15N, Range 3W, Sections 26, and 27.

Long-term indirect effects as seen from all moderate and high-sensitive viewpoints, road, trail and the Scott River Wild and Scenic corridors, recreational sites and all other areas seen within the Project area include gradually decreasing views into the forest understory, or decreasing views from open viewpoints as seen from former landing sites, or along line-of-site vistas, as seen from road and river corridors. Natural and human caused openings along ridgelines, as seen in middleground and background views may gradually decrease in size, creating the appearance of an unbroken forest canopy. Project area existing visual disturbances that are noticeable from all viewing distances would generally reduce over time through revegetation, in the absence of future human or natural disturbances.

Vegetation structural diversity would decrease over time, and density would increase through ongoing dynamic vegetation growth and competition, in the absence of future large-scale human or natural disturbances during the long-term timeframe.

#### **Cumulative Effects**

Other actions considered for cumulative effects would not add to this Project area alternative for Scenic Resources.

Over the long-term, the following may occur in the Project area: the potential decline of fire-adapted vegetation, as well as the decline of forest ecological resiliency to insects and disease.

Within the Project area and beyond, the probability increases for future strong landscape visual contrasts created by non-ecologically/historically established high-severity wildfire, insect infestation outbreaks, and/or a combination of insect infestation and subsequent tree mortality, followed by high-severity wildfire events.

#### Effects Common to Alternatives 2 and 3

#### **Direct and Indirect Effects**

For Scenic Resources, alternatives 2 and 3 effects have no measurable difference, and will be analyzed together. Both alternatives would treat the landscape with a combination of fuel breaks, underburning, and commercial or non-commercial variable-density thinning, resulting in widespread, but minor short-term visual contrasts, along with widespread short and long-term scenic resource benefits. These benefits visually improve the spatial and structural characteristics of scenic resources, as well as the ecosystem function of those treated portions of the forest. Desired visual characteristics include a more diverse vegetation structure, as well as a more open forest understory – two of the attributes the general public considers aesthetically positive. These characteristics also benefit forest ecological function, as increased tree spacing increases resilience to insect outbreaks and wildfire, and a less dense/more irregular spatial structure mimics the ecologically-established forest structure historically created by a low-mixed density fire regime.

As previously mentioned, although the short-term visual evidence of low-intensity (and the assumption of medium and high-intensity) prescribed burning is generally perceived as negative, the short and long-term ecological benefits outweigh short-term visual perceptions.

Foreground view effects: Short-term direct and indirect management effects in foreground views for all Project area VQOs, as seen from Forest Plan designated viewpoints and along designated high and moderately traveled roads/trails may include: tangible and intangible elements associated with active forest management during project implementation, such as harvesting activity, noise, dust, and traffic along haul routes. Additional short-term effects include: the change in vegetation massing (form, line, and texture) during and immediately upon project completion, cut stumps, tree paint and flagging, exposed soils and slash along temporary roads, landings, within skyline corridors and ground-based units, as well as linear evidence of skyline corridors. Additionally, short-term effects from underburning include tree bole (trunk) scorching, smaller tree mortality, and burned mosaic patterns on the forest floor.

Long-term effects in foreground views for all Project area VQOs may include cut stumps, tree paint and flagging, exposed soils, concentrated slash in existing and new landings, skid roads, and linear evidence of skyline corridors.

Long-term underburning effects will gradually decrease over time, as will vegetation massing as vegetation responds to the disturbance.

Short-term effects in middleground/background views for all Project area VQOs may include: Change in vegetation massing (form and texture, when compared against non-treated stands), exposed soils from landings, and linear evidence of skyline corridors or skid roads/existing road alignments exposed by a decrease in vegetation.

Long-term effects in middleground/background views for all Project area VQOs may include change in vegetation massing (form and texture, when compared against non-treated stands), linear evidence of skyline corridors or skid roads/existing road alignments exposed by a decrease in vegetation.

Additionally, the combination of silvicultural prescriptions and Scenic Resource PDFs will mitigate the short-term visual contrasts for those treatments seen collectively from identified Marble Mountain Wilderness trails.

Project design features will ensure all treatments will meet respective VQOs within the designated time-frame, especially those foreground areas along the high and moderate sensitivity roads, and along the Scott Wild and Scenic River corridor.

#### **Cumulative Effects**

The following are current and reasonably foreseeable future actions considered within the context of this Project:

Lake Mountain and Middle Tompkins Grazing Allotment Management Plan Project: This project is in the planning stages, and will reauthorize grazing permits for 10 years in locations outside of the Scenic Resources spatial area. The visual effects of grazing are generally smaller in scale, and more dispersed across the landscape in time and space, and therefore, are not expected to cross VQO thresholds, either independently, or in conjunction with the longer-term effects of the Lover's Canyon Project.

The Scott Bar Mountain Underburn and Habitat Improvement Project: This project is being implemented and will treat hazardous fuels and improve wildlife habitat on approximately 1,600 acres. Sections 22-27 (Township 44N, Range 11W) lie across the Scott River, east of the boundary of the Lover's Canyon Project. As previously mentioned, although the shorter term visual effects of burning are generally perceived by the public as negative, the long-term ecosystem and visual effects are positive (Ryan, 2005 and Islas, 2012). The visual effects of underburning in those sections across the river and adjacent to the Lover's Canyon Project may be perceived

negatively by some members of the public in the short-term, but will abate over time as vegetation responds to the disturbance.

Westside Fire Recovery Project: This project is being implemented, and the Happy Camp Complex Area is considered for cumulative effects with the Lover's Camp Project. This project will include salvage, roadside hazard treatments, hazardous fuel treatments, and site preparation/planting/release. The areas closest to the Lover's Project are outside of the project area, and ongoing treatments are not expected to accumulate in time and space in conjunction with the Lover's Canyon Project.

Wooley Water/Road Special Use Permit Renewal CE: This project is in the planning stages and will renew a special use permit for a water system. Since this is a small-scale, localized project outside of the Lover's Canyon Project area, and no new disturbance will take place, no cumulative effects are expected.

Wooley, R. Special Use Permit Renewal CE: This project, in the planning stages, will renew a special use permit for an existing water transmission line to private property. This small-scale, localized project outside the project area will not create new disturbance, and therefore, will not add to the Lover's Canyon Project.

### Summary of Effects

Table 1:

Indicator	Alternative 1	Alternative 2 or 3
Maintain all existing VQOs as designated, and where possible and compatible with other objectives, strive for higher visual quality standards.	Existing visual disturbances are minor and widespread. Meets Forest Plan Thresholds for all sensitive views. No new visual impacts; however increasing future risk for ecosystem disturbances, such as highseverity wildfire, and insect outbreaks.	Widespread new minor visual disturbances within sensitive viewsheds for 1-3 years. Would meet Forest Plan VQO thresholds for all sensitive views and road/trail travel corridors.
Perpetuate the ecologically-established landscape character when implementing management activities, by reflecting the form, line, color, and texture of natural occurrences seen in the characteristic landscape.	Ecologically-established landscape character currently impaired in both Project area managed and unmanaged stands due to increased vegetation density.	Vegetation in managed stands would shift toward historic light-mixed severity wildfire ecologically-established conditions in structure and appearance. Mechanical treatments and reintroduction of fire to the landscape reduces future high-severity wildfire risk and increases forest ecosystem insect resilience.

## Compliance with law, regulation, policy, and the Forest Plan

Alternative 2 or 3 will comply with relevant law, regulation, and policy. Alternative 1 will affect the Project area's existing scenic resources will continue a trend away from vegetation spatial patterns established by a low-mixed severity fire regime, and is not consistent with Forest-wide Klamath National Forest Plan Standard 11-4, which directs to "perpetuate the ecologically established landscape character."

## **Literature Cited**

- Gobster. (1999). An Ecological Aesthetic for Forest Landscape Management. *Landscape Journal*, 18(1), 54-64.
- Islas, P.V. (2012). A visual perception study in landscapes subject to fires in South East Australia. *Bosque* (*Valdivia*), 33(3), 19-20.
- Larson, A.J., & Churchill, D. (2012). Tree spatial patterns in fire-frequent forests of western North America, including mechanisms of pattern formation and implications for designing fuel reduction and restoration treatments. *Forest Ecology and Management*, 267, 74-92.
- Nassauer, J.I. (1992). The appearance of ecological systems as a matter of policy. *Landscape Ecology*, 6(4), 239-250.
- Ryan, R.L. (2005). Social science to improve fuels management: A synthesis of research on aesthetics and fuels management. St. Paul, MN: USDA Forest Service, North Central Research Station.
- Skinner, C.N., & Taylor, A.H. (2006). Southern Cascades Bioregion. *Fire in California's Ecosystems*, 195-224.
- Taylor, A.H., & Skinner, C.N. (1998). Fire history and landscape dynamics in a late-successional reserve, Klamath Mountains, California, USA. *Forest Ecology and Management*, 111(2-3), 285-301.
- U.S. Department of Agriculture, Forest Service. (1995). *Land and Resource Management Plan*. Klamath National Forest.
- Whittaker, R.H. (1960). Vegetation of the Siskiyou Mountains, Oregon and California. *Ecological Monographs*, 30(3), 279-338.
- Wills, R.D. (1991). Fire history and stand development of Douglas-fir/hardwood forests in northern California (Unpublished master's thesis.)

# Appendix A - Project Area Photographs



Figure 1: October, 2015: View towards Boulder Peak (Marble Mountains Wilderness) from a former logging landing along Forest Road 43N45, showing general forest vegetation patterns in Middleground views to treeline. N 41°36′ 21.42″, W 123° 07′ 55.36″, 3,770′ elevation. Approximate distance to ridgetop, 2.10 miles.



Figure 2: October, 2015: Typical view along Forest Road 43N45 showing general forest vegetation patterns in Foreground View. N 41° 35' 39.78", W 123° 08' 27.34", 4,096' elevation. In general, effects from vegetation management are seen more easily in foreground level and uphill views from the roadside. As depicted here on the left-hand side of the road, berms help mitigate uphill views to an extent.



Figure 3: October 2015: View from the Canyon Creek Trail, between the Lover's Camp Trailhead and the Marble Mountains Wilderness Boundary. N 41° 35' 27.93" W 123° 40.46". Elevation 4,205'. Evidence of past harvest activity uphill (stump), and typical dense mixed-conifer stand.

# Appendix B - Maps







